

B. In the Claims

Please cancel claims 1 to 8 and 19 to 30 without prejudice.

Upon entry of the present amendment, the claims will stand as follows in the present application:

Claims 1-8 (cancelled)

9. (original) An apparatus, comprising:
a light source tuned substantially to a resonant condition, the resonant condition corresponding to a target class of carbon nanotubes; and
focusing optics, optically coupled to the light source, to direct light emitted by the light source onto at least one nanotube of the target class of carbon nanotubes to create an optical dipole trap, the optical dipole trap capable to attract the at least one nanotube.
10. (original) The apparatus of claim 9, wherein the light source and the focusing optics are configured to scan the light across a mixture of carbon nanotubes, the mixture of carbon nanotubes including the target class of carbon nanotubes.
11. (original) The apparatus of claim 9, wherein the light source comprises a laser.
12. (original) The apparatus of claim 9, wherein the focusing optics include at least one lens.

13. (original) The apparatus of claim 9, further comprising a collector, the collector positioned to accumulate the target class of carbon nanotubes in response to manipulation by the light.

14. (original) The apparatus of claim 9, further comprising a polarizer, optically coupled to the light source.

15. (original) The apparatus of claim 14, wherein the polarizer is configured to rotate a plane of polarization of the light to rotate the at least one nanotube, the at least one nanotube having a longitudinal axis aligned parallel to the plane of polarization.

16. (original) An apparatus, comprising:

a light source tuned substantially to a resonant condition, the resonant condition corresponding to a target class of carbon nanotubes;

a beam splitter, optically coupled to the light source, to split light emitted from the light source along a first and a second optical path;

a first and a second acousto-optic modulator, optically coupled to the light source, to control the frequency of the light propagating along the first and the second optical path, respectively; and

focusing optics, optically coupled to the light source, to direct the light propagating along the first and the second optical path, respectively, onto at least one nanotube of the target class of carbon nanotubes to create an optical dipole trap capable to attract the at least one nanotube.

17. (original) The apparatus of claim 16, wherein the light source comprises a laser.

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18. (original) The apparatus of claim 16, wherein the first and the second acousto-optic modulators are configured to heterodyne the frequency of the light propagating along the first and second optical paths, respectively.

Claims 19-30 (cancelled)